

Table 1. Examined phytoseiid species as predators of thrips and whiteflies

Sub-family	Phytoseiid species	Predation type	Pest target(s)	Crop	Source
Amblyseiinae	<i>Amblydromalus lailae</i> (Schicha)	III-b	<i>Frankliniella schultzei</i>	-	Steiner <i>et al.</i> 2003
	<i>Amblydromalus limonicus</i> (Garman & McGregor)	III-b	<i>Thrips tabaci</i>	-	Sengonca and Dreischer 2001
			<i>Frankliniella occidentalis</i>	cucumber	Messelink <i>et al.</i> 2006; Samaras <i>et al.</i> 2021
			<i>Echinothrips americanus</i>	-	Ghasemzadeh <i>et al.</i> 2017
			<i>Scirtothrips dorsalis</i>	-	Schoeller <i>et al.</i> 2020
			<i>Bemisia tabaci</i>	pepper, eggplant	Cavalcante <i>et al.</i> 2015; Lee and Zhang 2018; Richter 2017
			<i>Trialeurodes vaporariorum</i>	poinsettia, cucumber	Medd and Greatrex 2014; Richter 2017; Vangansbeke <i>et al.</i> 2014
	<i>Amblyseiella setosa</i> Muma	?	<i>Bemisia tabaci</i> .	-	Momen <i>et al.</i> 2004
	<i>Amblyseius andersoni</i> (Chant)	III-b	<i>Thrips tabaci</i>		Sengonca and Dreischer 2001
	<i>Amblyseius eharai</i> Amitai & Swirski	?	<i>Thrips palmi</i>	-	Komi <i>et al.</i> 2008
	<i>Amblyseius herbicolus</i> (Chant)	III-c	<i>Bemisia tabaci</i>	-	Cavalcante <i>et al.</i> 2015
			<i>Trialeurodes vaporariorum</i>	-	Xin and Zhang 2021
	<i>Amblyseius largoensis</i> (Muma)	III	<i>Bemisia tabaci</i>	-	Cavalcante <i>et al.</i> 2015a
			<i>Aleurodicus cocois</i>	-	Alfaia <i>et al.</i> 2018
	<i>Amblyseius orientalis</i> (Ehara)	?	<i>Bemisia tabaci</i>		Zhang <i>et al.</i> 2015
	<i>Amblyseius swirskii</i> Athias-Henriot	III-b	<i>Frankliniella occidentalis</i>	cucumber, sweet pepper, roses, eggplant, bean, tomatoes, chrysanthemum	Bolckmanns <i>et al.</i> 2005; Messelink <i>et al.</i> 2005; 2006; Messelink 2008; Wimmer <i>et al.</i> 2008; Xu and Enkegaard 2010; Buitenhuis <i>et al.</i> 2010; Calvo <i>et al.</i> 2011, 2012; Chow <i>et al.</i> 2010; Colomer <i>et al.</i> 2011; Kütük and Yigit 2011; Xiao <i>et al.</i> 2012; Buitenhuis <i>et al.</i> 2014; Chrystiansen <i>et al.</i> 2016; Kütük 2017, 2018; Ahmed and Lou 2018;; Bouagga <i>et al.</i> 2018; Abou-Haidar <i>et al.</i> 2021; Dalir <i>et al.</i> 2021; Pirayeshfar <i>et al.</i> 2021
			<i>Frankliniella schultzei</i>	cucumber	Kakkar <i>et al.</i> 2016
			<i>Echinothrips americanus</i>	sweet pepper	Ghasemzadeh <i>et al.</i> 2017
			<i>Scirtothrips dorsalis</i>	pepper	Doğramaci <i>et al.</i> 2011
			<i>Scirtothrips dorsalis</i>	Beans, ,tomatoes	Xiao <i>et al.</i> 2012
			<i>Scirtothrips dorsalis</i>	pepper	Arthurs <i>et al.</i> 2009
			<i>Scirtothrips dorsalis</i>	-	Schoeller <i>et al.</i> 2020
			<i>Thrips palmi</i>	-	Cuthbertson <i>et al.</i> 2012
			<i>Thrips palmi</i>	cucumber	Kakkar <i>et al.</i> 2016
			<i>Thrips tabaci</i>	-	Wimmer <i>et al.</i> 2008
			<i>Bemisia tabaci</i>	roses, poinsettia, sweet pepper, cucumber	Nomikou <i>et al.</i> 2001, 2002, 2003a, 2003b; Nomikou <i>et al.</i> 2004; Ali and Zaher 2007; Fouly <i>et al.</i> 2011; Xiao <i>et al.</i> 2012 Momen <i>et al.</i> , 2013; Cavalcante <i>et al.</i> 2015b; Seiedy 2015; Guo <i>et al.</i> 2016; Soleymani <i>et al.</i> 2016a,b; Asadi <i>et al.</i> 2019; Mohamed and Imam 2019; Hosseininia <i>et al.</i> 2020; Kozlova <i>et al.</i> 2020; Vafaie <i>et al.</i> 2021

Table 1. (continued)

Sub-family	Phytoseiid species	Predation type	Pest target(s)	Crop	Source
Amblyseinae	<i>Amblyseius swirskii</i> Athias-Henriot	III-b	<i>Trialeurodes vaporariorum</i>	roses, cucumber	Heydari <i>et al.</i> 2016; Medd and Greatrex 2014; Messelink 2010; Seiedy <i>et al.</i> 2016; Mitina <i>et al.</i> 2021
	<i>Amblyseius tamatavensis</i> Blommer	III	<i>Bemisia tabaci</i>	pepper	Barbosa <i>et al.</i> 2019; Cavalcante <i>et al.</i> 2015; Cavalcante <i>et al.</i> 2017; Massaro and Moraes 2019; Souza and Marucci 2021
			<i>Singhiella simplex</i>	-	Döker <i>et al.</i> 2018
			<i>Frankliniella occidentalis</i>	-	Jorge <i>et al.</i> 2021.
	<i>Amblyseius tsugawai</i> Ehara	III	<i>Thrips palmi</i>	-	Komi <i>et al.</i> 2008
			<i>Bemisia tabaci</i>	-	Yang <i>et al.</i> 2019
	<i>Euseius castaneae</i> (Wang & Xu)	?	<i>Frankliniella occidentalis</i>	cucumber	Sarwar <i>et al.</i> 2011
			<i>Trialeurodes vaporariorum</i>	cucumber	Sarwar <i>et al.</i> 2011
	<i>Euseius concordis</i> (Chant)		<i>Aleurodicus cocois</i>	-	Alfaia <i>et al.</i> 2018
	<i>Euseius finlandicus</i> (Oudemans)	IV	<i>Frankliniella occidentalis</i>	cucumber	Messelink <i>et al.</i> 2006; Sarwar <i>et al.</i> 2011
			<i>Trialeurodes vaporariorum</i>	cucumber	Sarwar <i>et al.</i> 2011
	<i>Euseius amissibilis</i> Meshkov (= <i>Euseius gallicus</i> Kreiter and Tixier)	?	<i>Trialeurodes vaporariorum</i>	roses	Van Houten <i>et al.</i> 2016
			<i>Echinothrips americanus</i>	sweet pepper	Ghasemzadeh <i>et al.</i> 2017
			<i>Frankliniella occidentalis</i>	rose	Pijnakker <i>et al.</i> 2014
	<i>Euseius nicholsi</i> (Ehara & Lee)		<i>Thrips flavidulus</i>	-	Yao <i>et al.</i> 2014
	<i>Euseius ovalis</i> (Evans)	IV	<i>Frankliniella occidentalis</i>	Cucumber	Messelink <i>et al.</i> 2006; Messelink 2008
			<i>Scirtothrips dorsalis</i>	-	Manjunatha <i>et al.</i> , 2001
			<i>Echinothrips americanus</i>	sweet pepper	Ghasemzadeh <i>et al.</i> , 2017
			<i>Trialeurodes vaporariorum</i>	rose	Pijnakker <i>et al.</i> 2007; Messelink 2008
	<i>Euseius scutalis</i> (Athias-Henriot)	IV	<i>Bemisia tabaci</i>	cucumber	Nomikou <i>et al.</i> 2001, 2002, 2003a, 2003b, 2004; Fouly <i>et al.</i> 2013
			<i>Siphoninus phillyreae</i>	-	Abdelgayed <i>et al.</i> 2020
			<i>Frankliniella occidentalis</i>	cucumber	Messelink <i>et al.</i> 2006
	<i>Euseius sojaensis</i> (Ehara)	IV	<i>Thrips palmi</i>	-	Komi <i>et al.</i> 2008
			<i>Scirtothrips dorsalis</i>	vineyard	Shibao <i>et al.</i> 2004; Tsuchida and Masui 2023
	<i>Euseius utilis</i> (Liang & Ke)	?	<i>Frankliniella occidentalis</i>	cucumber	Sarwar <i>et al.</i> 2011
			<i>Trialeurodes vaporariorum</i>	cucumber	Sarwar <i>et al.</i> 2011

Table 1. (continued)

Sub-family	Phytoseiid species	Predation type	Pest target(s)	Crop	Source
Amblyseinae	<i>Gynaeseius liturivorus</i> (Ehara)	III	<i>Frankliniella occidentalis</i>	-	Mochizuki 2009
			<i>Scirtothrips dorsalis</i>	-	Mochizuki 2009
			<i>Thrips palmi</i>	-	Komi <i>et al.</i> 2008; Mochizuki 2009
			<i>Bemisia tabaci</i>	-	Mochizuki 2009
			<i>Trialeurodes vaporariorum</i>	-	Mochizuki 2009
	<i>Iphiseius degenerans</i> (Berlese)	IV	<i>Frankliniella occidentalis</i>	roses, cucumber, pepper	Scottbrown <i>et al.</i> 2003; Bolckmanns <i>et al.</i> 2005; Vantornhout <i>et al.</i> 2005; Messelink <i>et al.</i> 2006; Van Driesche <i>et al.</i> 2006; Chow <i>et al.</i> 2008
			<i>Heliothrips haemorrhoidalis</i>	-	Scottbrown <i>et al.</i> 2003
			<i>Thrips palmi</i>	-	Cuthbertson <i>et al.</i> 2012
			<i>Thrips tabaci</i>	-	Sengonca and Dreischer 2001
	<i>Neoseiulus barkeri</i> Hughes	III-e	<i>Frankliniella occidentalis</i>	cucumber	Messelink <i>et al.</i> 2006 Wu <i>et al.</i> 2014
			<i>Thrips flavidulus</i>	-	Yao <i>et al.</i> 2014
			<i>Thrips palmi</i>	-	Komi <i>et al.</i> 2008
			<i>Thrips tabaci</i>	cucumber	Jafari <i>et al.</i> 2013; Wu <i>et al.</i> 2014
			<i>Bemisia tabaci</i>	-	El-banhawy <i>et al.</i> 2001; Nomikou <i>et al.</i> 2001
	<i>Neoseiulus bicaudus</i> (Wainstein)	?	<i>Thrips tabaci</i>	-	Zhang <i>et al.</i> 2017
			<i>Frankliniella occidentalis</i>	-	Sanad and Hassan 2019
	<i>Neoseiulus californicus</i> (McGregor)	II	<i>Frankliniella occidentalis</i>	-	Walzer <i>et al.</i> 2004
			<i>Thrips tabaci</i>	-	Rahmani <i>et al.</i> 2016; Rahmani <i>et al.</i> 2009
	<i>Neoseiulus cucumeris</i> (Oudemans)	III-e	<i>Frankliniella bispinosa</i>	blueberry	Arévalo <i>et al.</i> 2009
			<i>Frankliniella occidentalis</i>	beans, sweet, pepper, cucumber, rose, strawberry, tomato, cyclamen	Jacobson <i>et al.</i> 2001; De Courcy 2001; Shipp and Wang 2003; Bolckmanns <i>et al.</i> 2005; Van Driesche <i>et al.</i> 2006; Ebssa <i>et al.</i> 2006; Messelink <i>et al.</i> 2006; Thoming and poehling 2006; Zilahi-Balogh <i>et al.</i> 2007; Buitenhuis <i>et al.</i> 2010; Rahmani <i>et al.</i> 2011; Ahmed and Lou 2018; Dalir <i>et al.</i> 2021
			<i>Frankliniella schultzei</i>	cucumber	Kakkar <i>et al.</i> 2016
			<i>Scirtothrips dorsalis</i>	pepper	Arthurs <i>et al.</i> 2009
			<i>Thrips flavidulus</i>	-	Yao <i>et al.</i> 2014
			<i>Thrips palmi</i>	cucumber	Komi <i>et al.</i> 2008; Cuthbertson <i>et al.</i> 2012; Kakkar <i>et al.</i> 2016
			<i>Thrips tabaci</i>	cucumber, eggplant	Madadi <i>et al.</i> 2009
			Whitefly- <i>Bemisia tabaci</i>	sweet pepper roses	Kozlova <i>et al.</i> 2020; Li <i>et al.</i> 2017
	<i>Neoseiulus fallacis</i> (Garman)	II	<i>Thrips tabaci</i>	-	Abdalkarim and abdwareth 2012
	<i>Neoseiulus womersleyi</i> (Schicha)	II	<i>Frankliniella occidentalis</i>	cucumber	Sarwar <i>et al.</i> 2011
			<i>Trialeurodes vaporariorum</i>	cucumber	Sarwar <i>et al.</i> 2011

Table 1. (continued)

Sub-family	Phytoseiid species	Predation type	Pest target(s)	Crop	Source
Amblyseiinae	<i>Neoseiulus tunus</i> (De Leon)	?	<i>Bemisia tabaci</i>	-	Cavalcante <i>et al.</i> 2015
	<i>Neoseiulus umbraticus</i> (Chant)	III	<i>Thrips tabaci</i>	-	Sengonca and Dreischer 2001
	<i>Phytoseiulus persimilis</i> Athias-Henriot	I-a	<i>Frankliniella occidentalis</i>	-	Waltzer <i>et al.</i> 2004
	<i>Proprioseiopsis lenis</i> (Corpuz & Rimando)	?	<i>Frankliniella occidentalis</i>	-	Nguyen <i>et al.</i> 2019
	<i>Proprioseiopsis mexicanus</i> (Garman)	?	<i>Frankliniella occidentalis</i>	-	Emmert <i>et al.</i> 2008
			<i>Thrips tabaci</i>	-	Huang <i>et al.</i> 2014
	<i>Proprioseiopsis nemotoi</i> (Ehara & Amano)	III-e	<i>Thrips palmi</i>	-	Komi <i>et al.</i> 2008
	<i>Transeius montdorensis</i> (Schicha)	III-b	<i>Frankliniella occidentalis</i>	strawberry, pepper	Rahmani <i>et al.</i> 2011; Labbé <i>et al.</i> 2019; Téllez <i>et al.</i> 2020
			<i>Frankliniella schultzei</i>	-	Steiner <i>et al.</i> 2003
			<i>Thrips palmi</i>	-	Cuthbertson <i>et al.</i> 2012
			<i>Bemisia tabaci</i>	poinsettia; cucumber	Richter 2017; Téllez <i>et al.</i> , 2020
			<i>Trialeurodes vaporariorum</i>	poinsettia	Richter 2017
			<i>Bemisia tabaci</i>	-	Mutisya <i>et al.</i> 2014
Phytoseiinae	<i>Phytoseius finitimus</i> Ribaga	III-a	<i>Bemisia tabaci</i>	-	Nomikou <i>et al.</i> 2001
			<i>Frankliniella occidentalis</i>	-	Pappas <i>et al.</i> 2013
			<i>Trialeurodes vaporariorum</i>	-	Pappas <i>et al.</i> 2013
Typhlodrominae	<i>Cydnoseius negevi</i> (Swirski & Amitai)	III	<i>Bemisia tabaci</i>	-	Momen <i>et al.</i> 2009; Momen <i>et al.</i> 2013
			<i>Trialeurodes ricini</i>	-	Fouly <i>et al.</i> 2021
			<i>Frankliniella occidentalis</i>	-	Sanad and Hassan 2019
	<i>Typhlodromus athiasae</i> Porath & Swirski	III	<i>Bemisia tabaci</i>	-	Nomikou <i>et al.</i> 2001
	<i>Typhlodromus pyri</i> Scheuten	III-a	<i>Frankliniella occidentalis</i>	-	Messelink <i>et al.</i> 2006